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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,214	06/30/2003	Andre Coutu	134821	7665
28080	7590	10/19/2005	EXAMINER	
CRAIG WILSON 2570 MATHESON BLVD. EAST SUITE 211 MISSISSAUGA, ON L4W 4Z3 CANADA			SAINT SURIN, JACQUES M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/608,214	Applicant(s) COUTU ET AL. 	
	Examiner Jacques M. Saint-Surin	Art Unit 2856	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/02/05.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,6-13,15,16 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,6-13 and 18-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Final rejection applied to the claims in the last office action is withdrawn.
2. The indicated allowability of claims 4, 6-13, 15-16 and 18-24 is withdrawn in view of a potential 112 first paragraph.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Specification***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

### ***Claim Rejections - 35 USC § 112***

5. Claims 4, 6-8 and 10-13, 15-16 and 18-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitations "recommending modifications to hydraulic turbine design to eliminate the abnormal singing noise vibrations during operation of the hydraulic turbine" recited in claims 4 and 16 is not enabled in the specification.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

4. Claims 4, 6, 8-10, 12-13, 15-16, 18, 20-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt (US Patent 6,556,956) or Follin et al. (US Patent 6,760,689) in view of Applicant's admitted prior art.

Regarding claims 4, 13 and 16, Hunt discloses a method for analyzing turbine noise vibrations (remote monitoring system 10 that is capable of continuous diagnostic monitoring of rotating machinery 12 located at geographically dispersed locations, see: col. 2, lines 28-31 and Fig. 1) comprising the steps of: recording into a computer file at a remote site (data acquisition unit 14, see: Fig. 1 and col. 2, line 38) at an expert site (on-site computer system 20) recorded noise information relating to noise of a hydraulic turbine (machine 12, see: Fig. 1 and col. 2, line 39) during hydraulic turbine operation at less than peak efficiency at the remote site recorded (remote monitoring system 10 that is capable of continuous diagnostic monitoring of rotating machinery 12 located at geographically dispersed locations, see: col. 2, lines 28-31 and Fig. 1); forwarding the recorded information from the remote site via a communication link to an expert site (the communication links 18 can be any type of transmission link such as, but not limited to telephone lines or the Internet, see: col. 2, lines 44-46); and analyzing the recorded noise information at the expert site (the data is processed at the data acquisition units 14 and analyzed at the central monitoring station 16, see: col. 2, lines 42-44). However, Hunt does not disclose recommending modifications to hydraulic turbine design to eliminate the singing noise vibrations during operation of the hydraulic turbine operating

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at less than peak efficiency. Applicant's admitted prior art discloses this dynamic phenomena is known to create audible vibrations which may be referred to as a hydraulic turbine "singing". Sound recordings of the turbine singing have been made in the past with dedicated equipment that required well-trained and highly specialized experts taking and analyzing the recordings at the turbine site. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Hunt the techniques of Applicant's admitted prior art because recording singing noise and recommending modifications to hydraulic line turbine design was well known at the time of the invention and therefore these techniques would be at level of the ordinary skill in the art.

Regarding claims 13 and 16, they are similar in scope with claim 1 and therefore, they are rejected for the reasons set forth for that claim.

Regarding claims 6, 10, 18 and 22, Hunt discloses the data acquisition unit 14 includes an on-site computer system 20, one or more process data sensors 22, and one or more dynamic data sensors 24. The process data sensors 22 communicate with the machine 12 to be monitored to sense process data that are indicative of the overall performance and/or condition of the machine 12. For example, the dynamic data sensors 24 may be proximity probes, accelerometers or any means for sensing vibrations, see: col. 2, lines 50-67 and col. 3, lines 1-4. Fig. 2 shows dynamic data sensors 24 attached to auxiliary processor 28. Although Hunt does not specifically disclose or suggest a portable computer, it would have been obvious to one of the ordinary skill in the art to recognize that the advantages of using a portable computer to

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record the information into the computer file since it would be easier, convenient and more practical and therefore it would be at the level of one of the ordinary skill in the art to determine when to use a portable device as desired.

Regarding claims 8, 12, 20 and 24, Hunt discloses the process data sensors 22 generate process data signals that are fed to the CPU 26 via an interface 32, which may be a standard RS/Ethernet interface. The process data signals are also fed to the auxiliary processor 28 via another interface 34, which may be an analog coaxial cable. The dynamic data sensors 24 generate dynamic data signals that are fed to the auxiliary processor 28 via an interface 36, which may also be an analog coaxial cable. The trend parameter signals are also transmitted to the central monitoring station 16 via the communication link 18. The trend parameter signals are viewed at the central monitoring station 16 and compared to a parametric baseline for the machine 12 to detect symptoms indicative of a need for inspection or maintenance, see: col. 3, lines 5-28. The method of compressing and uncompressing the computer file of the recorded noise are inherently met in Hunt since the communication link 18 can be any type of transmission link such as, but not limited to telephone lines or the internet. It is clear that the claimed invention is using internet for forwarding the information via email. Therefore, when the communication link is being used as internet the techniques of compressing and uncompressing the computer files would be applied as standard for sending and receiving information from the expert site 14 to the remote site 16.

Regarding claims 9, 15 and 21, Hunt discloses communication link is not limited to internet. Therefore, the information is forwarded via e-mail through the internet provided by communications link 18.

Regarding claims 4, 6, 8, 12-13, 15-16, 18, 20-22 and 24, Follin discloses the system and method of the invention provide for remotely monitoring the operation of at least one turbine, the turbine being disposed in an operating location. The method comprises inputting input data from the turbine; and processing the input data to generate verified performance data, the processing including determining validity of the input data and performing at least one calculation on the input data, which is valid, to generate the verified performance data. The method further includes generating a collection of stored data in a database based on at least one of the input data and the verified performance data (see abstract). Follin further discloses the invention provides the ability to quickly check the operation of a unit in the field and determine performance changes over time. This allows better diagnoses of field issues and enhanced capability to answer customer inquiries. (60). The collected data may be used to monitor the performance of the gas turbine fleet, including any of a wide variety or operating parameters, such as the firing temperature, for example the invention may also be used to track unit deterioration over time and predict fleet deterioration rates. Other obtained operating parameters may also be used to enhance customer satisfaction and in general the ability to operate turbines in the field. However, Follin does not disclose recommending modifications to hydraulic turbine design to eliminate the singing noise vibrations during operation of the hydraulic turbine operating at less

than peak efficiency. Applicant's admitted prior art discloses this dynamic phenomena is known to create audible vibrations which may be referred to as a hydraulic turbine "singing". Sound recordings of the turbine singing have been made in the past with dedicated equipment that required well-trained and highly specialized experts taking and analyzing the recordings at the turbine site. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Follin the techniques of Applicant's admitted prior art because recording singing noise and recommending modifications to hydraulic line turbine design was well known at the time of the invention and therefore these techniques would be at level of the ordinary skill in the art.

5. Claims 7, 11, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt (US Patent 6,556,956) or Follin et al. (US Patent 6,760,689) in view of Applicant's admitted prior art and further in view of Jones (US Patent Application Publication 2002/0154327).

Regarding claims 7, 11, 19 and 23, Hunt discloses data sensors would be of the type that convert mechanical motion or energy into electrical signals, for example, data sensors may be proximity probes, accelerometers or any means for sensing vibrations (see: col. 3, lines 1-7 Note that Hunt discloses a computer system 20 which can be any type of computer system such as PC, includes a primary or central processing unit (CPU) 26. However, Hunt does not specifically disclose or suggest a window sound recorder or a sound recorder program utilized to capture the noise information. Jones discloses a sound processor 119 is realized as an application program such as




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Microsoft Windows Sound Recorder, see: page 2, poaragraph 0021, lines 4-6. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Hunt or Follin the sound processor 119 of Jones because it would be realized as an application program Microsoft Windows sound recorder thereby providing the advantages of having the stored information in a desired format for further processing and forwarding in an effective and reliable manner.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jacques M. Saint-Surin  
October 15, 2005

  
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